

Gerbil which was watching nearby quickly dashed in and picked up its offspring by the 'neck grip' and retired with it into a nearby burrow.

On examination of the dead snake, it was found that about 15 cm of its tail had been badly 'mauled' by the Gerbil.

The whole incident reflects a strong maternal bond in the Desert Gerbil for its young even at the risk of its own life.

CENTRAL ARID ZONE RESEARCH
INSTITUTE, JODHPUR,
October 4, 1974.

K. D. MUTHANA

3. NESTING BEHAVIOUR OF *MUS MUSCULUS BACTRIANUS* BLYTH IN THE LABORATORY

(With a text-figure)

Information on nesting behaviour of *Mus musculus bactrianus* Blyth is meagre and therefore the present study was undertaken. Seven pairs of mice were kept for 5 to 6 months in cages before the start of the experiments, to acclimatize them to laboratory conditions and to one another. They were provided with 2 nest-boxes one in each half of the cage. Rice straw was provided at weekly intervals for building nests. The straw used for nest-building, either inside or outside the nest-box, was removed daily and weighed after clearing the nest-boxes and counting the nests. The nesting behaviour was studied from January to May and during the reproductive cycles.

1. Nesting behaviour in different months:

(i) *Nesting efficiency*: The nesting pairs of the mouse used variable amounts of rice-straw for nest-building and the number of nests also varied from month to month, the variation being highly significant. The mean amount of nesting material used per day by one pair ($n=7$) decreased from 4.536 g in February to 28 mg in May (Table 1). Similarly, the mean number of nests built per day per pair decreased from 1.05 in February to 0.05 in May (Table 2).

Thus it is clear that as the season warmed up, the frequency as well as the efficiency for nest-building decreased considerably. Denenberg *et al.* (1969)¹ reported that when male and female rats were exposed to cool ambient temperatures, dowel-shredding for nest-building increased markedly, whereas the exposing of the females to a warm environment stopped the dowel-shredding behaviour.

(ii) *Nesting site*: There were only 2 options for the mice to build

¹ DENENBERG, V. H., TAYLOR, R. E. & ZARROW, M. X. (1969): Maternal behaviour in the rat. An investigation and quantification of nest building. *Behaviour*, 34:1-16.

the nest, namely inside the nest-box or outside it. The mean ($n=7$) amount of rice-straw used per pair per day over a 5-month period was 1.455 gm in case of nests built inside the nest-box against 0.805 gm when the nests were built outside it (Table 1). Further, the mean number of nests built per day per pair in the nesting boxes was 0.45 against only 0.23 outside it (Table 2).

TABLE 1

AMOUNT OF NESTING MATERIAL USED BY *Mus musculus bactrianus* BLYTH FOR BUILDING NESTS

Location of the nest	Nesting material* (g/day/pair) used in					Average/ day (g)
	Jan.	Feb.	March	April	May	
1. Inside the nest-box	1.907	3.242	1.080	1.023	0.019	1.455
2. Outside the nest-box	1.389	1.294	0.806	0.528	0.009	0.805
Total	3.296	4.536	1.886	1.551	0.028	2.260

C. D.

	p = 0.05	p = 0.01
Main-treatments (months)	0.05	1.11
Sub-treatments (Location of the nest)	0.18	0.25
Interaction (Main-treatment \times Sub-treatment)	0.43	0.57

* Mean of 7 pairs.

TABLE 2

FREQUENCY OF NEST BUILDING BY *Mus musculus bactrianus* BLYTH

Location of the nest	Number* of nests/day/pair					Average/day (no.)
	Jan.	Feb.	March	April	May	
1. Inside the nest-box	0.55	0.72	0.59	0.36	0.04	0.45
2. Outside the nest-box	0.33	0.33	0.31	0.18	0.01	0.23
Total	0.88	1.05	0.90	0.54	0.05	0.68

C. D.

	p = 0.05	p = 0.01
Main-treatments (months)	0.09	0.13
Sub-treatments (Location of the nest)	0.09	0.12

* Mean of 7 pairs.

Thus both the number of nests and the weight of the material used in making them show that the mouse prefers to build the nest inside a sheltered area. In winter, they preferred to build nests inside the nest-boxes, whereas in the summer there was no site preference.

2. Nesting efficiency during reproductive cycles:

The amount (mean of 7 parturitions) of rice-straw used was 2.717 gm ($n = 29$), 6.136 gm ($n = 10$) and 2.171 gm ($n = 11$) per day during pre-parturition, parturition and post-parturition respectively. The nesting efficiency was highest ($p = 0.01$) at or just before parturition. Before it, the nesting efficiency increased abruptly, whereas afterwards it declined slowly (Fig. 1). Denenberg *et al.* (1969) reported that in rats,

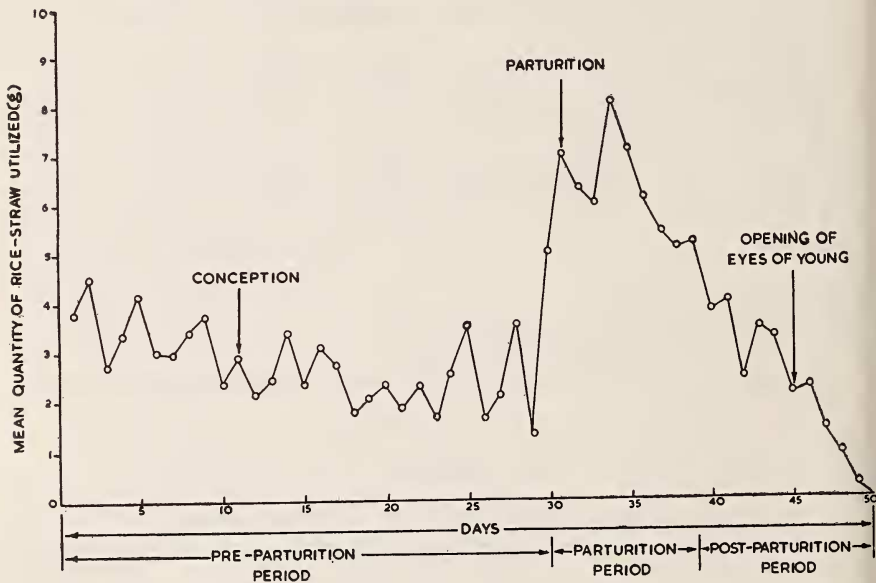


Fig. 1. Amount of rice-straw utilized daily by *Mus musculus bactrianus* Blyth. (mean of 7 parturition).

pregnant females showed a marked increase in dowel-shredding at or just before the time of parturition, and it fell slowly after parturition. He further mentions that males and non-pregnant females did not show such a pattern over an equivalent period. The nest-building behaviour has survival value for the young.

DEPARTMENT OF ENTOMOLOGY,
PUNJAB AGRICULTURAL UNIVERSITY,
LUDHIANA,
June 12, 1975.

G. S. MANN
O. S. BINDRA